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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,599	12/04/2003	Yong Yang	11419-003-999	2559

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EXAMINER

RONESI, VICKEY M

ART UNIT PAPER NUMBER

1714

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/728,599		YANG ET AL.	
	Examiner		Art Unit	
	Vickey Ronesi		1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-57 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/4/03</u> . | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION

Drawings

1. The drawings are objected to because it is upside down and it is not labeled as "Fig. 1", to which the specification refers. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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2. Claims 1, 14, 15, 18-25, and 34-57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, it is not clear if the phrase "at least one of" is applied to the hydrophobic monomer (suggesting at least one hydrophobic monomer in addition to the hydrophilic monomers) or if the phrase is applied to both hydrophobic monomer and hydrophilic monomers (suggesting that either the hydrophobic or hydrophilic monomer is optional).

With respect to claims 34, 40-43, 45, 51-54, 56, and 57, the ingredient "a tint base" has not been clearly defined and causes confusion since it is not made clear what is included in a tint base, i.e., does the tint base only include a binder, or does it also include other ingredients like surfactants, associative thickeners, other pigments not in the colorant compositions, etc? In the interest of compact prosecution, the examiner has interpreted the tint base to include only the binder portion of a paint.

With respect to claims 35 and 46, the phrase "does not substantially change color after rub-up" contains the relative term "substantially" which renders the claims indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

With respect to claims 40-43 and 51-54, the relative terms "low-shear viscosity" and "high-shear viscosity" render the claims indefinite. The terms "low-shear" and "high-shear" are not defined by the claim, the specification does not provide a standard for ascertaining the

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requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

With respect to claims 14, 15, 18-25, 36-39, 44, 47-50, and 55, they are rejected for being dependent on a rejected claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-9, 11-20, 23, 26-28, 34, 37-39, 45, 48-50, 56, and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Sonnabend (US 4,384,096).

Sonnabend discloses polymeric thickeners containing 15-60 wt % ethylenically unsaturated carboxylic acid monomer (col. 3, lines 27-53), 15-80 wt % of a nonionic ethylenically unsaturated monomer such as a mixture of vinyl acetate, ethyl methacrylate, butyl acrylate, and methyl methacrylate (col. 3, lines 54 to col. 4, line 27), 1-30 wt % of a vinyl surfactant ester such as one with a C₈-C₂₀ alkoxypoly(ethyleneoxy)ethyl acrylate (col. 4, line 28 to col. 5, line 9), and minor quantities of ethylenically unsaturated crosslinking monomer (col. 7, lines 3-8)--wherein the thickener is prepared by conventional emulsion polymerization (col. 6, lines 6-46) and wherein one or mixture of two more thickeners (col. 9, lines 31-32) are used in aqueous-based paints which contain pigment (col. 9, lines 38-43). Exemplified paints are in cols. 13 and 14 and comprise water, surfactant (e.g., Triton and Dowfax), pigment (e.g., calcium

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carbonate and titanium dioxide), oxygenated solvent (e.g., ethylene glycol and glycol ether), and a tint base (i.e., latex binder).

In light of the above, it is clear that Sonnabend anticipates the presently cited claims.

4. Claims 1-7, 11-20, 23, 26-28, 31, 34, 37, 45, 48, 56, and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Hawe et al (US 4,892,916, cited on IDS filed 12/4/2004).

Hawe et al discloses polymeric thickeners containing 10-70 wt % vinyl acid monomer such as acrylic acid, methacrylic acid, and itaconic acid (col. 4, line 45 to col. 5, line 18), 15-80 wt % vinyl monomer such as mixtures of vinyl acetate and alkyl acrylates (col. 5, lines 18-43), 5-30 wt % surfactant monomer (col. 5, line 47 to col. 6, line 12), and 0.0005-5 wt % ethylenically unsaturated crosslinker (col. 6, lines 24-33)--wherein the thickener is prepared by emulsion polymerization with an emulsifier (col. 7, lines 37-46) and is used in latex paints and pigment pastes (col. 8, lines 43-52). Improved thickening is observed when other surfactants are used in combination with the thickener (col. 8, lines 20-32). The exemplified paint comprises the thickener, a tint base (i.e., binder), water, oxygenated solvent (e.g., hexylene glycol), pigments (e.g., titanium dioxide, calcium carbonate, and talc) (Example 6, col. 16). The exemplified printing paste comprises the thickener, binder and pigments (Examples 8-10, cols. 18-20).

In light of the above, it is clear that Hawe et al anticipates the presently cited claims.

5. Claims 1-4, 8-10, 14-23, 26-31, 34, 36, 37, 45, 47, 48, 56, and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al (US 4,138,381, cited on IDS filed 12/4/2004).

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Chang et al discloses polymeric thickeners (col. 2, line 49 to col. 3, line 2) containing 10-98 wt % unsaturated carboxylic acid of 3-6 carbons (col. 3, lines 3-10), 1-50 wt % at least one alkyl acrylate or alkyl methacrylate; and 1-85 wt % ester (i.e., surfactant) monomer (col. 3, lines 11-48)--wherein thickener is prepared by solution polymerization glycol solvents (col. 3, line 65 to col. 4, line 23) and dispersed in a solvent (col. 5, lines 27-35), and the thickener is used in paints containing polymeric latices, pigments, solvents, and other thickeners (col. 5, line 36 to col. 6, line 29). An exemplified paint comprises pigment (e.g., titanium dioxide), anionic surfactant, nonionic surfactant, oxygenated solvent (e.g., ethylene glycol), tint base (i.e., binder), and additional thickener (e.g., sodium polycarboxylate) (col. 6, line 34 to col. 7, line 55).

In light of the above, it is clear that Chang et al anticipates the presently cited claims.

Claim Rejections - 35 USC § 102/103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 35, 40-44, 46, and 51-55 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either Sonnabend (US 4,384,096), Hawe et al (US 4,892,916, cited on IDS filed 12/4/2004) or Chang et.al (US 4,138,381, cited on IDS filed 12/4/2004).

The discussions with respect to Sonnabend, Hawe et al, and Chang et al in paragraphs 3, 4, and 5, respectively, above are incorporated here by reference.

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Sonnabend, Hawe et al, and Chang et al do not expressly disclose the properties or the relative properties like presently claimed, nevertheless, since Sonnabend, Hawe et al, and Chang et al disclose the presently claimed composition, it is the examiners position that it is inherent that compositions of Sonnabend, Hawe et al, and Chang et al exhibit the presently claimed properties since such properties are evidently dependent upon the nature of the composition used. Case law holds that a material and its properties are inseparable. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

In light of the above, it is clear that Sonnabend, Hawe et al, and Chang et al anticipate the presently cited claims.

To the extent that Sonnabend, Hawe et al, and Chang et al do not expressly disclose the presently claimed properties, it is considered that it would have been obvious to one of ordinary skill in the art to utilize the disclosures of any one of Sonnabend, Hawe et al, or Chang et al and prepare a composition having the presently claimed desirable properties and thereby arrive at the presently cited claims.

Claim Rejections - 35 USC § 103

7. Claims 23-25 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sonnabend (US 4,384,096), Hawe et al (US 4,892,916, cited on IDS filed 12/4/2004), or Chang et al (US 4,138,381, cited on IDS filed 12/4/2004), any one of which in view of Carpenter et al (US 5,527,614).

The discussions with respect to Sonnabend, Hawe et al, and Chang et al in paragraphs 3, 4, and 5, respectively, above are incorporated here by reference.

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None of Sonnabend, Hawe et al, or Chang et al discloses the specific inorganic and organic pigments like presently claimed; however, Sonnabend teaches that conventional pigments are added to the latex coating compositions (col. 9, lines 38-42), Hawe et al teaches that conventional pigments may be added to the aqueous latex paints (col. 8, lines 46-48), and Chang et al teaches that conventional pigments are included in its list of pigments (col. 6, lines 3-15).

Carpenter et al discloses pigment dispersion for use in aqueous paints and teaches pigments generally known in the art in col. 8, lines 15-34 (e.g., metallized and non-metallized azo reds) and that the chosen pigment depends on the desired color (col. 8, lines 35-38).

Given that Sonnabend, Hawe et al, and Chang et al are open to the use of conventional pigments, it would have been obvious to one of ordinary skill in the art to utilize the known pigments as taught by Carpenter et al in either composition of Sonnabend, Hawe et al, or Chang et al to obtain a composition with a desired color and thereby arrive at the presently cited claims.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vickey Ronesi whose telephone number is (571) 272-2701. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7/7/2005

vr




CALLIE E. SHOSHO
PRIMARY EXAMINER